IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

United States Patent Application

To: Commissioner for Patents
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Applicant(s)..... VIRKAR, Anil Vasudeo; BHIDE, Sanjeevani Vidyadhar
Group Art Unit.....1754
Examiner..... BOS, Steven J.
Attorney's Docket Number..... U2726US
Title "A MOLECULAR DECOMPOSITION PROCESS FOR THE SYNTHESIS OF NANOSIZE CERAMIC POWDERS"

CERTIFICATION UNDER 37 C.F.R. 1.8
I hereby certify that this document, along with attachments referred to or identified as being enclosed, is being deposited with the United States Postal Service with sufficient postage as first class mail on 11 July 2003 in an envelope addressed to Commissioner for Patents,. PO Box 1450, Alexandria, Virginia 22313-1450. Name of Registered Representative: James L. Sonntag, Reg. 30224

RESPONSE

This is in response to the office action mailed June 13, 2003. A shortened statutory period for response was set to expire one month from the date of the office action.

Notification was made that the reply filed by the Applicant on April 28, 2003, was not fully responsive. A requirement was made to make a full response. In accordance with the requirement, a full response is made below.

RESPONSE TO RESTRICTION REQUIREMENT

Election of Invention Requirement

The Examiner has required restriction to one of the following groups of claims:

I. Claims I to 20, drawn to a method for making ceramic powder, and
II. Claims 21 to 25, drawn to a method for making a metallic powder.

The Applicant elects, with traverse, the claims of Group I (Claims I to 20).

The Examiner has alleged that the inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1, because they lack the same or corresponding special technical features.

The Examiner has also alleged that the claims of the groups do not relate to a single general inventive concept under PCT Rule 13.1 for the reasons that the process of each group are known in the art as shown by Sasaki '514 or Burgard '275 or Chow '230.

The reasons for traversing the requirement is that the Applicant respectfully disagrees with the Examiner's assertion that, "... the processes of each group are known in the art..." upon which assertion his restriction is based. The Examiner is referred to the discussion in the Preliminary Amendment, mailed 5 September 2001. Sasaki '514 was not there discussed, but the general discussion of the art in the application and the preliminary amendment applies to this reference. Burgard '275 appears to have a similar disclosure to WO 96/34829, which as discussed.

Referring specifically to Sasaki '514, in Sasaki '514 thin fragmental titanium oxide is prepared by contacting cesium titanate Cs_xTi_2-x/4O_4) with an aqueous acid solution to form layered titanic powder, of H_xTi_2 -x/4O_4.nH_2O. In this composition the H+ and H_2O are present instead of Cs, which are then treated by a basic amine to form interlaminar water and amines. In the present invention, there are no interlaminar materials formed, but to the contrary in the present invention a fugitive constituent reacts with the solvent to form a solution with the solvent, and the solvent is removed with the dissolved fugitive constituents to form a nanosize power of the undissolved residue. No nanosize powder is formed in Sasaki '514. To form layers of nano-thickness in Sasaki '514, the layered titanic powder, must be treated to exfoliate and separate the layers to a thickness of nanometer level. As noted in FIG. 1, and at col. 4, lines 38 to 42, the material formed is not a nanosize powder but one of micrometer size fragments of

micrometer width and nanometer thickness. (Also see in Sasaki '514, col. 2, line 31 to 49, lines 57 to 67, col. 3, lines 1 to 2.)

The same inventive concept is used in all of the claims. The claims differ in that the precursor is selected to produce various ceramic powders or metal powders.

None of the cited references disclose a method of forming powders using a decomposition method as in the present invention. The references are processes that do not relate to the present process. Accordingly, all of the claims recite the same or corresponding technical feature.

Election of Species Requirement

The Examiner has alleged that the application contains claims directed to more than one species of the generic invention. The species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1. The species are CeO_2, rare earth doped CeO_2, ZrO_2, TiO_2, V_2O_5, Al_2O_3, Cr_2O_3, Pd.

Election is made to ZrO_2. This election is made with traverse. The claims readable on the elected species are Claims 1, 3, 8, 14, 15, 16, 17, 18, 19, 20.

The reasons for this traverse are the same as those already set forth above.

Summary

Applicant believes that the present claims should not be subject to an election required, and respectfully requests the Examiner to reconsider and withdraw this requirement.

Respectfully submitted;

Dated: 11 July 2003 By: _____

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